

2015 MBRTB Aviation Plan

Medicine Bow-Routt National Forest



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I. INTRODUCTION

The use of aircraft presents unique opportunities for accomplishing certain agency land management objectives. Using aircraft presents a unique set of hazards and risks which require special consideration and continual assessment. One basic question that should be asked before planning and commencing any flight or aviation mission is: *“Is this flight necessary, or is there an equally efficient and cost effective method to accomplish the same work without exposing employees to the risks of aviation?”*

This plan has been compiled using the experience and wisdom of several generations of aviators and aviation users. Many of the policies and recommendations in aviation management are the result of accident and incident investigations, with the hope that accidents, injuries, and fatalities can be prevented. This plan serves as the Unit Aviation Plan for the Medicine Bow-Routt National Forests & Thunder Basin National Grassland:

- A. The objective or purpose of this plan is to align unit aviation planning and operations with National and Regional standards. It is designed to accompany and supplement National/Regional Aviation Management Plans, and all applicable agency manuals, handbooks, and operational guides. It consolidates key aviation direction for Forest Service employees who engage in aviation activities to assist them in managing a safe and cost-effective aviation program at the local Forest level. The Forest Aviation Plan is an accessory to the Casper and Craig Dispatch Center plans and provides specific Forest Service Policy which may not be fully addressed in the Dispatch Center Operating Plans.

Forest Supervisors are authorized to approve this Plan by FSM 5711.4. The Forest Aviation Officer will review and update the Plan annually per FSM 5704.61

- B. The primary aviation uses on the MBRTB include aerial reconnaissance for fire detection, aviation support for prescribed fire projects and wildland fire suppression incidents, resource reconnaissance, transport of Forest personnel, and occasional law enforcement and search/rescue missions. Aircraft may also be used occasionally on other projects such as aerial reseeding, helicopter sling load projects, radio repeater site work, and aerial photography. The majority of flight hours are incurred by rotor wing aircraft, although fixed wing aircraft are used extensively for passenger transport, reconnaissance/fire detection, and delivering fire retardant.
- C. Local topography and climate conditions present unique hazards and challenges for aviation users in Wyoming and Colorado. Parts of Wyoming and Colorado are known for the extreme wind conditions that persist for several days or weeks during certain times of the year. Afternoon thunderstorms develop frequently and suddenly during the summer months. The interaction of strong wind and mountain topography can create extreme hazards for all aircraft operations. Mission flights may be conducted at altitudes that range from 4,000 to 13,000 ft. above sea level. Decreased

aircraft performance due to high Density Altitude is a critical consideration when ordering and utilizing specific makes and models of aircraft, and when briefing pilots and Aircrews. Special emphasis must be placed on calculating aircraft performance, strictly adhering to allowable payload limits, and performing risk assessments.

- D. A list of public use airports and approved helicopter landing sites on the Forest are maintained in the Dispatch Centers. Information needed by pilots and aviation users, including airport latitude/longitude, elevation, fuel available, runway lengths, and radio frequencies, is readily available on FAA aeronautical sectional charts, in the current FAA Airport Facility Directory, and on various internet sites such as www.airnav.com.

The following elevations are provided to give someone who is unfamiliar with the area an idea of the typical terrain conditions they may be working in, and are not intended to be used as specific references for aircraft performance planning.

- Medicine Bow Mountains. 7,500 – 12,000 feet above sea level. (Medicine Bow Peak – 12,013 ft., several other peaks over 10,000 ft.)
- Sierra Madres. 7,000 – 11,000 ft. (several peaks over 10,000 ft.)
- Laramie Range. 6,000 – 10,000 ft. (highest point; Laramie Peak - 10,272 ft.)
- Park Range 7,500 – 12,000 ft. (Mt. Zerkel–12,180 ft., several peaks over 11,000 ft.)
- Elkhead Mountains. 7,000 – 10,000 ft.
- Rabbit Ears Range. 8,000 – 12,000+ ft. (several peaks over 11,000 ft.)
- Gore Range (Northern Part). 8,000 – 10,000+ ft. (several peaks over 10,000 ft., further south – several peaks over 13, 000 ft.)

Airports near the Forest include the following:

Wyoming Airports	Location	Elevation (ft)
Laramie	Lat:41°18'45"N, Long:105°40'26"W	7,278
Saratoga	Lat:41°26'40"N, Long:106°49'25"W	6,978
Rawlins	Lat:41°48'15"N, Long:107°12'15"W	6,820
Cheyenne	Lat:41°09'21"N, Long:104°48'44"W	6,156
Casper	Lat:42°54'29"N, Long:106°27'47"W	5,348
Gillette	Lat:44°20'56"N, Long:105°32'20"W	4,363
Newcastle	Lat:43°53'00"N, Long:104°18'45"W	4,167
Colorado Airports		
Hayden	Lat:40°28'54"N, Long:107°13'06"W	6,903
Steamboat Springs	Lat:40°31'00"N, Long:106°52'00"W	6,879

Moffat (Craig)	Lat:40°29'42"N, Long:107°31'18"W	6,192
Kremmling	Lat:40°03'12"N, Long:106°22'06"W	7,411

Pilots and flight managers must consult aeronautical sectional charts and a current FAA Airport Facility Directory for information regarding runway lengths, communication frequencies, availability of fuel, and unique hazards. Pilots are responsible for carefully calculating aircraft performance and planning missions using this information along with current weather reports and forecasts. The Flight Manager must brief pilots on all other known (published or unpublished) local hazards prior to commencing any mission.

E. The following policy documents and publications are referenced in this Plan.

- FSM 5700, Aviation Management policy
- FSH 5709.16, In-Service Flight Operations Handbook
- FSH 6709.11, Health and Safety Code Handbook
- USFS 2013 National Aviation Management Plan
- USFS-R2 Regional Aviation Operations and Accident Prevention Plan
- Interagency Aviation Training (IAT) Guide
- Interagency Helicopter Operations Guide (IHOG)
- Interagency Aerial Supervision Guide (IASG)
- Interagency Single Engine Airtanker Operations Guide (ISOG)
- Interagency Smokejumper Operations Guide
- Interagency Aerial Ignition Guide
- Interagency Aviation Transport of Hazardous Materials Guide
- Interagency Airspace Coordination Guide
- Report to Congress, "Potential Impacts of Aircraft Overflights of National Forest System Wilderness," July 1992
- National, Regional, and Zone Interagency (Dispatch) Mobilization Guides
- Rocky Mountain Region Memo 5700, May 24, 1991, Documentation and Cost/Use Justification of Administrative Flights Using Forest Service or Contract Aircraft
- Mission-specific Aviation (Flight Services procurement) Contract for the operation being flown.

II. ORGANIZATION AND STAFFING: AVIATION ROLES AND RESPONSIBILITIES

A. Forest Supervisor

The Forest Supervisor is responsible for all aviation activities on the Medicine Bow-Routt National Forest. (FSM 5704.6)

Many of these responsibilities may be delegated to the Forest Aviation Officer as deemed appropriate. The Forest Supervisor shall:

1. Establish, administer, and manage national aviation resources assigned to or hosted by the Forest in response to the Forest's needs, and in accordance with current direction and policy.
2. Approve and supplement the Forest Aviation Plan with additional local policies or directives as appropriate. One example might be, authorizing the specific use of mechanized equipment (i.e. aircraft landings) within designated wilderness areas (if deemed necessary).
3. Designate a Forest Aviation Officer (FSH 5709.16)
4. Approve all non-emergency aviation projects on the Forest, prior to the operation commencing, by signing each Project Aviation Safety Plan (PASP). *Note: This responsibility may be delegated to District Rangers for non-complex or low to moderate risk missions. The SMS Risk Assessment is initialed by the approving line officer within the plan.*

B. Forest Aviation Officer

The Forest Aviation Officer is responsible for coordinating, training, supervising, and providing guidance for Forest employees involved in aviation activities on each National Forest. This responsibility requires providing support to the fire program, resource programs (non-fire), and oversight of administrative aircraft use by Forest personnel. The Forest Aviation Officer will monitor field activities to ensure compliance with existing aviation policy and standards, communicate new policies and standards to agency employees, and initiate corrective actions when policy deviations or deficiencies are detected, and/or when otherwise directed by line officers or regional aviation management staff. The Forest Aviation Officer may be asked to provide guidance or assistance to each Interagency Dispatch Center with the process of selecting and ordering aircraft for specific missions. If the Forest Aviation Officer is unavailable, the Forest's Fire Management Officer will serve as designated alternate.

The primary duties of the Forest Aviation Officer position include, but are not limited to the following:

1. Develops and provides annual updates for the Forest Aviation Plan and serves as the subject matter expert and point of contact for clarifying agency and interagency aviation policy. Functions as the conduit for information flow between the Regional Aviation staff and Forest-level personnel.

2. Coordinates and Facilitates Interagency Aviation Training (IAT) courses on each Forest, maintains employee IAT records, and ensures that only current and properly trained employees are allowed to participate in flight activities.
Note: Many, but not all, NWCG red-carded firefighters operating under the supervision of qualified Air Operations personnel within the Incident Command System are exempt from IAT training and certification requirements.
3. Provides for coordination with other government agencies, and cooperators on subjects involving aviation operations that affect the unit(s), and coordinates with other agencies that may operate aircraft on, over, or near Forest lands.
4. Participates in annual aviation related workshops and meetings, and participates in scheduled local/regional aviation conference calls. When able, attends Incident Management Team in-briefings and out-briefings.
5. Develops/manages the Aviation Safety Program at the Forest level by:
 - Promoting the aviation Safety Management System (SMS) program
 - Participation in FAST team assignments and aviation incident or accident investigations as requested
 - Providing safety training and guidance for Forest personnel
 - Reviewing, editing, each Project Aviation Safety Plan (PASP) of low/moderate complexity for non-Fire aviation missions and submit to the RAO for review.
 - Reviewing unit SAFECOMS (form FS 5700-12), and coordinating with the Regional Aviation Safety Manager or Regional Aviation Officer to determine necessary follow up actions.
6. Participates in contract development and contract administration, as necessary, with Forest and Regional level Contracting Officers. Maintain Contracting Officer's Representative (COR) certification when feasible, or seek qualified assistance.
7. The Forest Aviation Officer has the responsibility and delegated authority to stop any aviation activities that are determined to be unsafe, or are not being carried out within established agency policies or operating standards, and implements corrective actions.
8. Brief all incoming management teams and pilots on aviation plan and hazard maps.
8. Until all qualification equivalency as described by IAT are attained for Aviation Manager. Consult with fully qualified aviation manager during periods of heightened activity, such as fire incidents.

C. Forest Fire Management Officers

Serve as program coordinator on behalf of Forest Supervisor with the Forest Aviation Officer for aviation program needs, personnel and project approvals, and safety/risk implications.

D. Interagency Dispatch Centers

The Casper and Craig Interagency Dispatch Centers are responsible for ensuring that flight plans and flight following are in place so that all aviation activities are tracked and monitored in accordance with agency aviation policy, the Forest Aviation Plan, and the Rocky Mountain and National Mobilization Guides. The Center Manager/Coordinator responsibilities include, but are not limited to:

1. Ordering appropriate aerial fire suppression resources and aerial supervision (as needed and required) through established Dispatch ordering procedures, and performing/documenting a cost analysis before ordering approved/carded aircraft and pilots to perform non-fire aviation missions.
2. Establish and maintain flight following and perform positive hand-offs via one or more of the approved flight following methods. (Reference: Rocky Mountain Mobilization Guide, Sec. 24.3 and FSM 5716.5). Ensure the status and location of all public aircraft operating on the Forest, under government operational control, are known.
3. Develop, maintain, and update an Aviation Incident/Accident Response Plan with input, assistance, and review by the Forest Aviation Officer. Internal simulations or drills should occur at least once each year to ensure dispatch staff is ready and proficient in handling unexpected aircraft emergencies including missing and overdue aircraft, and accidents. The Center Manager should conduct an internal After-Action Review, document the findings, and brief the Forest Aviation Officer. Remedial training and an additional simulation or drill may be required to ensure that any deficiencies have been corrected.
4. Develop and utilize a boundary airspace management plan and notify the adjoining Dispatch Center whenever aircraft are operating within five miles of the Dispatch area boundary of jurisdiction. (Reference: Rocky Mountain Mobilization Guide, Sec. 24.1.1 and 24.13.)
5. Identify potentially hazardous situations with airspace that warrant the deconfliction of Military Training Routes (MTRs) or Special Use Airspace. Proactively initiate contact with military (or FAA) airspace managers, controllers, or “scheduling activity” personnel as electronically published in the DOD AP/1A and AP/1B documents. Request and implement Temporary Flight Restrictions (Ref. 14 CFR 91.137) as needed or requested to protect the airspace in the vicinity of wildland fire incidents.
6. Participate in the briefing and debriefing process with Incident Management Teams and with Flight Managers who oversee non-fire aviation missions on the Forest. Coordinates flow of information between interagency cooperators and notifies the Forest Aviation Officer, Fire Management Officer, other agency managers, and neighboring units of aviation-related matters as needed.

E. District Rangers

The District Ranger is responsible for the overall supervision of aviation operations on his/her District, and may be assisted by the Forest or District FMOs. These responsibilities include:

- Ensuring USFS aircraft operations are conducted safely on the Forest.
- Keeping the Forest Aviation Officer informed of aircraft use and the need for aircraft services to accomplish District work.
- Ensuring that a properly trained and qualified Flight Manager is assigned to plan and supervise all aviation projects and operations.
- Ensuring that Project Aviation Safety Plans (PASP's) have been developed and are signed/approved for all District projects involving aircraft.
- Ensuring that Forest employees are provided with all necessary and required personal protective equipment and training required for missions being flown. (Ref. FSM 5716.31).
- Providing signatory approval to authorize transportation of non-federal passengers on agency flights. (Form 5700-12 Day Trip Authorization as required by FSM 5716.41).

F. Flight Managers

A trained, qualified, and current Flight Manager will be assigned to all USFS flights and aviation missions that are not scheduled commercial airline flights. The specific training, and currency standards for Flight Managers (Fixed Wing and Helicopter Manager), are outlined in the 2015 version of the Administrative use Aircraft Desk Reference and *Interagency Aviation Training (IAT) Guide* at www.iat.gov. *Note: The USFS has adopted the IAT program and standards as national policy for all aviation users. Employees, who currently possess an Incident Qualification Card such as Helicopter Manager (HMGB) or Helicopter Crewmember (HECM), meet or exceed the IAT standard for the same position on a non-fire project or mission flight.* Many of the Flight Manager responsibilities are listed in FSH 5709.16.31.22. The following information clarifies these responsibilities in greater detail.

On **Administrative Use (Point-to-Point) Flights**, the Flight Manager's responsibilities include but are not limited to:

1. Assemble personnel, ready to board, 15 minutes before scheduled departure. Prepare passenger and cargo manifest with proper flight weights, and provide to the Pilot and Dispatch prior to departure. Ensure Fire personnel have resource orders. Call Dispatch if flight is delayed more than 30 min.
2. Ensure Pilot and Aircraft cards are current and correct. Confirm cards support the approval to conduct the flight. Report any discrepancies and do not fly.

3. Provide pilot with a copy of the manifest and ensure he/she provides a standard aircraft safety briefing for all passengers. Brief the pilot on the desired route, stopping points, travel time estimates, etc. and disclose the presence of any hazardous materials on the flight.
4. Confirm that an Agency and/or FAA Flight Plan have been filed and are activated upon departure.
5. Notify the sending and/or receiving Dispatch Center (by radio or phone, per instructions) at each fuel stop, and upon arrival at the destination.
6. Complete, verify, and sign the FS-6500-122 Flight Use Report (or AMD-23 for interagency flights procured under DOI system) at the conclusion of the flight. Submit document to Aircraft Dispatcher or Aviation Manager to be entered into the appropriate electronic (i.e. ABS) finance system as instructed.

On **Mission Flights**, the Flight Manager (Special Use) responsibilities include, but are not limited to:

1. Operating within his/her scope of employment: Helicopter Managers, Air Tactical Supervisors, and other Incident qualification card personnel functioning in a "Flight Manager" role are expected to operate within the limitations of their Incident Qualification Card and their assigned position within the Incident Command System organization and chain-of-command. *(i.e. an Aerial Observer on a fire reconnaissance or detection flight may not direct incident air operations or perform aerial supervision unless qualified as ATGS and flying in an aircraft with a pilot that are both carded for Aerial Supervision.)*
2. Ensure a Project Aviation Safety Plan (PASP) has been written *(for any non-Fire mission)* and has been reviewed and signed by the Forest Aviation Officer and the RAO. Ensure the appropriate line officer has approved the plan. (I.e. Forest Supervisor).
3. Ensure that only passengers essential to the mission are allowed to participate on the mission flight.
4. When aircrew members are requested and or required for the safety of the flight, they will meet the current IAT training requirements listed in the IAT Guide. (I.e. Aircrew members can be requested when transporting Hazardous Materials.)
5. Ensure that the Pilot and Aircraft provided for the mission are appropriately carded for the mission to be flown. The Flight Manager must physically confirm the cards are current and valid before the mission flight begins.
6. Ensure the pilot and all passengers are briefed on mission details, procedures, contingency plans, etc. (See Section IV.E. below). An aviation risk assessment is a required component of the PASP that should be reviewed in the briefing. *When possible, the Pilot, Flight Manager, and Aircrew should review any applicable risk assessments that are found in the current "Aviation Risk Management Workbook" and proactively discuss a strategy for avoiding a mishap or accident prior to*

commencing a mission.

7. Provide the Pilot and Dispatch (or airbase manager) with a copy of the passenger and cargo manifest, including the disclosure and copy of the hazardous material waiver document of any hazardous materials to be carried on the flight. *(It is absolutely essential to consult with the Pilot in Command for final approval and any specific hazardous materials packaging and loading directions.)* See Section IV. P. below.
8. Ensure that a Load Calculation has been accurately prepared for any rotor-wing mission. *(Helicopter Managers must verify/sign Load Calculations.)* Fixed wing flights require the Pilot to prepare a weight and balance calculation. (The Flight Manager is not required by policy to review/sign it.)
9. Ensure that all occupants are provided and wear full Personal Protective Equipment (PPE) on any helicopter flight.
10. Ensure that radios are programmed with the proper frequencies, and that flight following is conducted via 15-minute radio calls and/or via the Automated Flight Following (AFF) system. The method of flight following authorized for the specific mission flight will be documented and approved in the PASP, and must be addressed in the pre-flight briefing with the pilot and with concurrence by the Dispatch Center or the person/entity performing the flight following (*i.e. the ABRO at a project helibase*). The method of flight following utilized must comply with agency or interagency policy and procedures (*as outlined in the National and Rocky Mountain Mobilization Guides*.) Company flight following methods that may be offered by aircraft contractors are not authorized or approved.
11. Ensure that flights do not deviate from the planned/approved route or flight profile. Any necessary deviations due to weather or other unforeseen adverse circumstances must be immediately reported to Dispatch.
12. Ensure that pilot flight hour and duty limitations are not exceeded, that missions are conducted no earlier than 30 minutes before sunrise, are concluded no later than 30 minutes after sunset, and that all other policies and contract requirements are adhered to for the duration of the period of hire.
13. The Flight Manager must complete a SAFECOM form to report any condition, observation, act, maintenance problem, or circumstance with personnel or the aircraft that has the potential to cause an aviation-related mishap. The SAFECOM system is **not** intended for initiating punitive actions. Submitting a SAFECOM is **not** a substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to identify, document, track and correct safety related issues. The Forest Aviation Officer should be briefed on all SAFECOMs.

G. All Forest Service Employees (FSM 5704.8)

Forest Service personnel are always responsible for their own safety and the safety of those around them. The following guidelines will help ensure safe aircraft use on and

around each Forest.

- If something doesn't look right or feel right, stop the operation and ask questions. Employees are not expected to be subject matter experts on aviation policy, but are expected to use good judgement and remain within their scope of employment at all times. When in doubt about any aviation mission or flight operation, employees should consult with their supervisor, the Forest Aviation Officer, or Dispatch.
- Ensure that aircraft and pilots that you ride with or use on projects are properly carded for the activity for which they are being used. Forest Service personnel may not ride in a "Restricted category" aircraft that has not been approved for personnel transport, except in emergency situations. Cooperator aircraft may be utilized only if there is a current "Cooperator Aircraft Letter of Approval" on board.
- When conditions indicate that further aviation activity will jeopardize the safe conduct of the operation, employees will initiate action to stop that operation and report circumstances and action taken to the official in charge and notify Dispatch and/or the Forest Aviation Officer. Use the SAFECOM Aviation Safety Communiqué, www.safecom.gov to document the incident. Individuals are encouraged to report any situation they feel constitutes a potential hazard or threat to personnel and/or equipment.
- Make every effort to develop an effective Crew Resource Management (CRM) relationship with Pilots, supervisors, other passengers, the Forest Aviation Officer, and Dispatch by communicating. Approach aviation safety with the mindset that all players are equal members of a team, including yourself.

III. PERSONNEL TRAINING and QUALIFICATIONS STANDARDS

Employees involved in Wildland Fire Aviation Activities (Suppression, Prescribed Fire, etc.) will adhere to the NWCG 310-1 training and certification standards and any additional requirements specified in FSH 5109.17, based on the following language:

The Wildland and Prescribed Fire Qualification System Guide, PMS 310-1, produced by the National Wildfire Coordinating Group (NWCG), provides national minimum requirements for wildland firefighting personnel qualified to perform fire suppression and fire use related jobs (FSM 5108). The qualifications in PMS 310-1 are the minimums for any organization or agency sending personnel outside their areas of jurisdiction to ensure each person has met experience, training, and physical fitness guidelines.

Each agency has the latitude to supplement the position qualification requirements with more specific skill levels and to describe additional levels of positions to meet agency needs.

FSH 5109.17 is the controlling document with respect to all fire and aviation management qualifications for Forest Service employees. On all assignments, the qualifications in FSH 5109.17 are the standards that must be met by Forest Service employees.

Non-fire aviation users, managers, and supervisors will adhere to the Interagency Aviation Training (IAT) requirements and standards that the USFS adopted as policy in 2005. Those requirements may be reviewed at www.iat.gov. Note: *Appendix 1 of the IAT Guide provides additional specific information and clarification related to the IAT training requirements and standards for USFS employees.*

Aviation training should be addressed in an employee's individual training and development plan when that employee's work duties involve use of aviation resources, or if the individual supervises employees who utilize aviation resources to accomplish agency mission objectives. Line Managers (Forest Supervisors and District Rangers) are strongly advised to attend an A-314 "Aviation Program Overview for Line Managers" session to enhance aviation program knowledge. Supervisors who oversee employees that fly on aircraft in the course of their duties are recommended to take M-3 Aviation Management for Supervisors training. This half-day course may be presented by a certified Intermediate IAT trainer.

In addition to meeting the IAT requirements for the position, the Forest Aviation Officer should have a thorough knowledge of applicable federal aviation regulations, agency aviation policy, and the components of an agency aviation safety program. The Forest Aviation Officer's background should include aviation related experience such as a former position as Unit Aviation Manager, Aircraft Dispatcher, and/or red-carded positions such as SEAT or Helicopter Manager or Air Tactical Group Supervisor. Additional recommended training to fully function in the position includes:

- Attendance at Aviation Conference & Education (ACE) session
- Contracting Officer Representative (COR) training/certification
- IAT "Train-the-Trainer" or M-410 Facilitative Instructor
- Risk Management, Human Factors, and Crew Resource Management
- Safety Management Systems (SMS) training and workshops
- Private Pilot ground school or pilot certification

IV. AVIATION OPERATIONS

A. General Policies:

The following policies apply to **all** aviation activities that are conducted under the operational control of the USFS.

- All aviation operations will comply with the appropriate Federal Aviation Regulations (14 CFR Parts 91, 133, 135, 137, etc.), Forest Service Health and Safety Code (FSH 6709.11), and Forest Service Manual (FSM 5700) and Handbooks (5709.16), and any policy supplements required by Region 2 or the Forest.
- Only authorized personnel essential to the mission may fly on any USFS procured and managed flight. (See Section H. below for additional details.)
- Per 14 CFR 91.3, the Pilot in Command is directly responsible for, and is the final authority as to the operation of that aircraft. However, any passenger on that aircraft or any official with responsibility for managing the operation (i.e. Helibase Manager, Flight Manager, etc.) may decline, postpone, or terminate a flight due to safety related concerns at any time, and without reprisal. This must be communicated during aviation safety training, pre-flight safety briefings, and should be clearly understood by everyone involved.
- All Fire-related Aviation Operations will be conducted in accordance with the appropriate handbook or guide for the type of aircraft and mission being flown (i.e. IHOG, IASG, ISOG, etc.) See Section 1.E. above for a list of appropriate operational policy guides.
- Aircraft services will be ordered only by the Forest Aviation Officer, Dispatch Center Manager (or as delegated to a qualified Aircraft Dispatcher). Project Managers will be involved in the cost analysis and ordering process to ensure an appropriate aircraft is procured that meets all policy and performance requirements.
- Only appropriately carded aircraft and pilots will be used. The designated Flight Manager must verify pilot and aircraft cards are current prior to beginning a mission or project.
- A qualified Flight Manager (fixed wing or helicopter) will be designated, and a Project Aviation Safety Plan (PASP) will be written and signed by a line officer (District Ranger level or higher) for all non-Fire / non-emergency **mission** flights. See Section D. below for additional details.
- A multi-engine aircraft with a flight crew of two (pilot and copilot) is required anytime an aircraft is being operated in Instrument Meteorological Conditions (IMC) under Instrument Flight Rules (IFR) with agency personnel on board. Only General Use (point-to-point flights) may be conducted under IFR. Mission flights may only be conducted in conditions at or above Visual Flight Rules (VFR) weather minimums, for the Class of Airspace and altitude of operation, as designated in 14CFR 91.155. FAR does allow for single pilot operations in (IFR) if there is an operating auto pilot.
- Single-engine aircraft carrying government personnel on agency point-to-point or mission flights may be utilized only in day VFR conditions (from one half hour before official sunrise until no later than one half hour after sunset). *Single engine flights on scheduled air carriers (i.e. small commuter airlines) are allowed.* Additional

requirements specific to fixed wing operations are found in the Regional Aviation Plan.

- All mission flights require a pre-flight briefing. Though not specifically required by policy, a post flight briefing is highly recommended at the conclusion of every mission flight. See Section E. below for additional details and a minimum list of briefing topics to cover.
- The pilot in command is responsible for determining the aircraft performance capabilities and limitations for the expected altitude and temperature of operation, before commencing any flight. (Ref. 14 CFR 91.103). This requires an assessment of weather information and completion of a fixed wing weight and balance calculation or a helicopter load calculation.
- A manifest must be prepared anytime an aircraft will be used to transport personnel and cargo. An accurate record of the names and weights of each passenger and the weight of each piece of baggage/cargo on each individual flight must be documented, and a copy left on the ground with a responsible individual (helibase manager, aviation manager, or Dispatcher). The Flight Manager will provide the manifest to the pilot who will ensure that the weight of personnel and cargo is below the maximum allowable payload and within the required aircraft performance envelope for the expected flight altitude and temperature. The manifest will be utilized by fixed wing pilots to ensure the aircraft is loaded within center-of-gravity limits. See Flight Operations Guide 5709.30 for more information.
- All incoming aviation flight crews will receive an orientation briefing specific to Wyoming and Colorado Aviation Operations.

B. Fixed Wing Operations

- Notwithstanding the minimum safe altitudes required by 14 CFR 91.119, no fixed wing aircraft will be flown below 500 feet AGL except take off and landings. *The minimum altitude over other than congested areas is 500 above ground level. Over sparsely populated areas an airplane may not be operated closer than 500 feet to any person, vessel, vehicle or structure.* The exceptions are airtankers delivering retardant, lead plane and ASM operations, paracargo drops from smokejumper aircraft, and aerial seeding or spray missions (flown with only the pilot on board, under an end-product contract when able).

As a general rule, any non-fire missions that require low level flight will utilize rotor wing aircraft. *On very rare occasions, a non-fire resource mission may require operating fixed wing aircraft below 500 feet. Such missions require a strong operational justification and a PASP with signatory approval by the Forest Supervisor and Regional Aviation Manager.* In all cases, full Personal Protective Equipment (PPE) must be worn by all aircraft occupants during any low level fixed wing mission.

- Regional policy for the use of single - engine airplanes used for special missions (FSM 5710.5) must have a power loading of not more than 13.5 pounds per horsepower. Multi- engine airplanes used for special missions must be turbo/supercharged.
- Reconnaissance Flights typically utilize single engine, high wing aircraft that enable optimum visibility of the terrain below. These missions require a high degree of competency and judgment on the part of the pilot, as well as knowledge of proper

mountain flying techniques. Only pilots carded for reconnaissance may be used. The Risk Assessment process should be used to determine if, when, and how the mission should be conducted. Observers should be at least trained to IAT *Aircrew Member* standards. When able, observers on Fire detection and reconnaissance missions should be red-carded as an Aerial Observer (AOBS).

C. Helicopter Operations

All USFS Helicopter missions will adhere to the standards detailed in the *Interagency Helicopter Operations Guide (IHOG)*. In addition to the general policies listed in Sec. A. above, the following policies apply to all rotor-wing missions.

- Personal protective equipment (PPE), including flight helmets, Nomex fire clothing or flight suit, Nomex or leather gloves, and leather boots will be worn when working around or flying on helicopters. A firefighter hard hat with chin strap and eye/ear protection (goggles and ear plugs) MAY be worn by personnel working on the ground at a helibase, and by the occupants of a helicopter who are flying from one staffed/managed/established helibase or helispot on a wildland fire incident to another staffed/managed helibase or helispot. *Firefighters departing from or landing at any unstaffed helispot must wear an approved flight helmet such as an SPH 4 or SPH 5 model.*
- A helicopter Load Calculation form FS-5700-17 or AMD-67, must be accurately prepared by the pilot and reviewed/approved by the Helicopter Manager (HMGB) before commencing any rotor-wing flight or mission. (See IHOG for specific requirements and load calc. procedures.)
- Helicopter operations must cease whenever the wind reaches the maximum allowable speed and gust-spread as prescribed in the IHOG. If wind conditions have not yet reached the limits published in the IHOG, operations will cease when the pilot and/or HMGB have determined that conditions are no longer safe or when the helicopter is no longer effectively meeting mission objectives.
- External loads. All external loads will be flown by a pilot who is appropriately carded for external long-line missions. An approved, qualified person will make all hookups.
- Fuel storage and handling. Fuel may be pumped from commercial sources, the contractor's service truck, or purchased sealed barrels. Pump and filters described in the contract will be used in all fueling operations.
- Winter helicopter operations require the addition of sufficient survival equipment to sustain all personnel on board for at least 24 hours. Any jobs which involve landings on snow, require specific approval of the Forest Aviation Officer.

D. Project Aviation Safety Plan (PASP)

Emergency wildland fire suppression missions do not require a PASP since they occur on very short notice in response to an emergency situation. *There are numerous existing documents (operational guides such as the IHOG, Dispatch mobilization guides, Fire Management Plans, etc.) which address the planning details and pre-authorize emergency*

aviation missions. All other planned, non-emergency projects and aviation missions (including fire detection, most law enforcement missions, and all non-fire resource management projects) require a PASP that addresses the specific details of the mission including aircraft procurement, safety issues and mitigation strategies, and a description of how the operation will be staffed, tracked, and managed. A recurring mission that will be flown on a frequent or regular basis throughout the year requires only one blanket PASP, unless there is a significant change in the flight profile (such as switching from fixed wing to rotor-wing) or a change in the area or manner in which a project is flown. **A recurring mission requires a new manifest and flight schedule to be documented and provided to Dispatch each time a flight occurs under a blanket PASP (9400-1a).** Each PASP will be reviewed and signed by the Project Manager, Flight Manager, Forest Aviation Officer, RASM, HOS and the Regional Aviation Officer (RAO). A line officer (i.e. Forest Supervisor) is the approver of the PASP.

A Project Aviation Safety Plan serves many purposes besides justifying and authorizing a flight to occur. It should be utilized as a documented risk assessment and risk management plan as well as a briefing tool for pilots, aircrew, supervisors, Dispatch, aviation managers, and line officers. It is the responsibility of the Project Manager and/or Flight Manager to write an accurate and thorough PASP, and the responsibility of the Forest Aviation Officer to provide guidance, technical expertise, and policy interpretation to assist the manager in developing the Plan.

A sample MBRTB Standard PASP template is included in Appendix 2. The plans will vary with the complexity of the mission, but should at least contain the following information:

- Description of project, objectives, reason/justification, and date/time schedule.
- Map and written description of the project area that depicts the route or area of flight, defines operational altitudes and expected temperatures, helibase/helispot locations (if rotor-wing mission), and any known ground-based or aerial hazards.
- Aircraft requirements including the category and capabilities of aircraft needed to successfully complete the mission at the highest expected altitude and temperature and method of performance planning which will be utilized. *Include aircraft make, model, N-number, and pilot name, if known.*
- Special equipment needed (seed bucket, aerial ignition device, etc.)
- Personal Protective Equipment (PPE) requirements.
- Personnel/staffing requirements including the names of the project manager, Flight Manager, and Aircrew, and individual roles and responsibilities. It is especially important to provide the names and positions of any non-USFS or non-federal employees deemed “essential” to the mission. (Additional approvals are required.)
- Aircraft procurement method (type of contract), cost analysis between at least one or two vendors with rationale for best value determination, the amount of funding expected to be spent on flight services, and the job code(s) to be used for payment. NOTE: Only USFS owned or contracted aircraft may be utilized. *Use of Cooperator agency aircraft requires a special approval and letter of authorization.*

- Cost assessment and determination/justification for selecting “best-value” vendor. *(Note: This documentation must be maintained but may be retained in a project file in Dispatch or in the Project Manager’s office rather included in the Safety Plan.)*
Note the management code that will cover the aircraft expenses.
- Disclosure of any hazardous materials which will be transported by aircraft and verification that procedures will comply with the Interagency Aviation Transport of Hazardous Materials handbook and the current DOT-9198 Letter of Exemption.
- Some form of documented risk assessment should be included. This may be and “Operational Risk Management” (ORM) grid matrix, a Job Hazard Analysis, a Go-No-Go checklist, an SMS System Safety Assessment, or a combination of several of the above. One example is found in Chapter 3 of the IHOG.
- Communication Plan and method of flight following including frequencies and backup/alternate frequencies to be programmed into the aircraft radio and utilized. If local, on-scene flight following will be utilized, there should be language describing how a positive hand-off will be accomplished from and back to Dispatch, who will be responsible for the on-scene flight following, and what back-up or contingencies are in place for mitigating the possible loss of communications.
- Contingency plan of action to follow in the event of an incident, accident, loss of communication, or precautionary termination of work. Plan should address method of documentation (i.e. SAFECOM), notification checklist, and should reference the Unit or Zone (or Aircraft Incident/Accident Response Plan) which is maintained and activated in Dispatch.
- Signature lines for Project Manager, Flight Manager, Forest Aviation Officer, Regional Aviation Officer, and approving Line Officer (i.e. Forest Supervisor).

E. Pre-flight and Post-flight briefings

The pre-flight and post flight briefing is the best opportunity for initiating and establishing an effective Crew Resource Management (CRM) working relationship between the pilot in command, the Flight Manager, and passengers. In addition to greatly enhancing operational safety and mission effectiveness, a good briefing establishes an effective foundation that promotes successful Contract Administration when using non-government vendors and pilots.

Some level of discussion is also required by policy and must occur between the Flight Manager, pilot, and Aircrew to review mission objectives and details, hazards, flight safety, contingency plans, etc. prior to commencing the flight. Dispatch must also be briefed, at least by phone or radio, and provided with all pertinent information regarding the mission. During wildfire incidents and prescribed fire projects, this is normally accomplished via the morning briefing given by the Helibase Manager, Fixed Wing Base Manager, or Air Support Group Supervisor. Whenever possible, the Flight Manager should review the appropriate Risk Assessments found in the current-year Aviation Risk Management Workbook that has been posted on the web at the USFS Aviation Safety website at http://www.fs.fed.us/fire/av_safety/index.html.

The following is a minimum list of briefing items to be covered in a briefing:

- Check and confirm USFS or Interagency pilot and aircraft approval cards.
- Discuss mission objectives, flight route/profile, Aircrew duties.
- Names and flight weights of all personnel who intend to fly.
- Type and weight of any cargo (disclosing any hazardous materials).
- Review/confirm load calculation, weight & balance, performance limitations.
- Use of any required PPE and other equipment (cameras, GPS, etc.).
- Fueling procedures to be utilized, ground operations procedures/safety.
- Map review of the route or area of flight with an emphasis on the location and description of any known ground or aerial hazards in the flight area, including Military Training Routes (MTRs) and special use airspace.
- Flight following methods, interval, use of AFF, radio frequencies, and Dispatch Center procedures; (*Program aircraft radios and test frequencies.*)
- Sterile cockpit procedures for takeoff, landing, and critical phases of flight.
- Call signs and location of any other aircraft known to be operating in the vicinity; air-to-air and air-to-ground frequency assignments (Fire).
- Contingency plans and alternate strategies in case the mission cannot be completed as planned or if precautionary or emergency landing is needed.
- Review pilot's recent flight and duty day history and any other duty limitations that may be in place (i.e. Phase Limits) or which may impact the aircraft availability in the coming days.
- Ascertain schedule for upcoming routine aircraft maintenance inspections or relief pilot, driver, or mechanic mobilization.
- Procedures for completing, verifying, and submitting FS-122 pay document.
- Review recent applicable Agency and Interagency Safety Alerts & Bulletins.
- Confirm authorizations (i.e. line Officer's signature) are in place.

F. Flight Following

FSH 5709.16.33 defines acceptable methods and procedures for filing flight plans and conducting flight following. Additional guidance for Dispatchers is provided in the Rocky Mountain Geographic Area Mobilization Guide. Flight following is the responsibility of the scheduling office and will remain so until transferred through positive hand-off to another facility or office. The responsibility is shared by the Flight Manager and pilot while flying a mission, or may be delegated to other personnel (i.e. ABRO or HEMG on a helibase) involved in managing the project or incident air operations. *Basic principles of Crew Resource Management dictate that this should be addressed and discussed in the pre-flight briefing.* The method and interval (and frequencies) for flight following will be documented in the PASP or on a Flight Request form. Check-ins while flight following either in Dispatch, or locally on a project or incident, should be documented on an appropriate radio flight following log by the individual designated to perform that task. The responsibility of flight following may not be delegated to vendor personnel (such as a fuel truck driver) as it remains a function of inherent governmental operational control. Government personnel may operate Vendor aircraft radio systems only with full concurrence and a briefing by the pilot in command. On point-to-point flights, the pilot is responsible for filing and activating FAA flight plans or coordinating with Dispatch for AFF tracking or radio flight following if

needed. Deviations from FAA or agency flight plans are allowed only for weather or other reasons related to aviation safety. All USFS flights will utilize flight following by one or more of these methods:

1. An FAA Instrument Flight Rules (IFR) flight plan or Visual Flight Rules (VFR) flight plan filed with FAA, filed and activated by the pilot, and tracked by radar and/or radio contact with an FAA facility (point to point flights only).
2. A written agency flight plan utilizing radio check-ins with Dispatch offices at 15-minute intervals. An exception or alternative to the normal 15-minute check-in interval (not to exceed one hour) may be approved if it is planned, identified, and justified in the Project Aviation Safety Plan, under certain extenuating circumstances. Each check-in will state current position (Lat. Long. or geographic location), heading, and status/intentions. When flying into known radio “dead spots” or when landing to refuel, Dispatch will be informed of the location and given an estimated timeframe that the aircraft will be out of contact. The aircraft will resume radio contact with Dispatch as soon as possible. Actions to be taken to mitigate the risk of working in known radio “dead spots” should be addressed in the Project Aviation Safety Plan. The Flight Manager may wish to consider planning and implementing local, on-scene flight following if the requirements listed in method #4 below can be met.
3. Satellite/electronic tracking systems that meet agency approval, such as Automated Flight Following (AFF) may be utilized in Dispatch to supplement, but not completely replace, conventional Flight Following methods. While many tactical fire aircraft now have AFF transmitters installed, most ARA aircraft utilized on non-fire missions do not. Requirements for the use of AFF are defined in the *National Interagency Mobilization Guide and the Rocky Mountain Area Interagency Mobilization Guide – Section 24.3.1* and each Dispatch Center’s Operating Plan.
4. Local/on-scene flight following by incident or project personnel may be implemented and utilized only when certain requirements are met and in place.
 1. Pre-identified and approved in Special Use Safety Plan.
 2. Personnel properly trained and qualified.
 3. Flight following procedures discussed in pre-flight briefings.
 4. Methods of flight following are in place and tested, including communication with Dispatch, before flight operations begin.
 5. Positive, clean “hand-offs” must occur between Dispatch and the project site when local flight following begins and ends.
 6. Backup/alternate communication devices in place, available, & tested.
 7. Fifteen minute check in interval (or visual contact) with aircraft is maintained and documented on a field radio log.
 8. Emergency accident and lost communication procedures must be briefed and understood by project flight following personnel, the pilot, Flight Manager, and Dispatch.

Any mission flight in which positive radio contact cannot be established or is lost will be terminated at the earliest opportunity and may not resume until the problem is resolved. Lost communications should be documented and explained via a

submitted SAFECOM form.

G. Administrative Flights

Flights for administrative use require a cost comparison and use justification. The intent of this justification is to document an analysis and justify the best value to the government including use of employee time and salary, cost of desired mode of travel, and provides a method for documenting and justifying the decision to fly. It also enables the agency to compare the cost of available agency- owned and/or contract aircraft. See FSM 5713.51 and 2015 Administrative Use of Aircraft Desk Guide for definitions and information on administrative use of aircraft. All passengers must be listed on a flight manifest which is retained in the originating Dispatch Office and forwarded to the receiving Dispatch Center.

H. Authorized Passengers

Forest Service Employees or Other Government Employees: When travel involves overnight or reimbursable official travel, the Flight Manager must complete the required travel authorization and voucher as documentation. When travel involves a day trip conducted in a single calendar day, a trip specific authorization is not required.

Senior Executive Service(SES): Whenever any Senior Executive Service Official is aboard an agency provided flight there are special documentation requirements. Reference: Documenting Administrative Flights, Section VI.

Persons Other Than Government Employees Aboard Forest Service Aircraft (FSM 5716.4): Persons other than Government employees may participate in mission or administrative flights if that person's participation is essential, the flight is conducted for official business, and the flight is approved and authorized by a line officer. Non government passengers are considered SES for reporting purposes. That person's participation is subject to all appropriate provisions of FSH 6509.33.

ALL NON-GOVERNMENT PERSONS MUST BE AUTHORIZED ON A DAY TRIP AUTHORIZATION FORM prior to the flight. Non-Government Persons are defined as anyone not employed by a branch of the Federal Government; for example: state and local government personnel, private sector cooperators, volunteers, contractors or their employees, family members of government employees, and news media representatives.

Guidance to Authorize Passengers is as follows:

a.) In the case of employees or officials of entities with whom the Forest Service has a formal agreement, such as State or local government agencies or private sector cooperators, by referring to the terms of that agreement in the authorization. If no formal agreement exists, the FS-5700-12 must contain sufficient detail to substantiate the official purpose.

NOTE: No special authorization is required when Government or Non-Government

persons are being transported by agency provided flights as a result of receiving mobilization/ demobilization orders for a wildfire or emergency incident.

b.) In the case of Government contractors, their employees, or permittees, by the appropriate contracting officer or line officer.

c.) In the case of Members of Congress and their parties, follow provisions of FSM 1515.

d.) In the case of members of the press or other media, by the line officer having jurisdiction over the event of interest, the National or Regional Director of Fire and Aviation Management, or the Incident Commander in charge of an incident.

e.) In the case of family members of Forest Service employees or other persons who may not be covered by the preceding paragraphs, by the Washington Office Fiscal Officer.

I. Flight and Duty Limitations (Ref. 5709.16.11.27)

All pilots flying Forest Service missions shall be limited to the following tours of duty:

Phase 1 – Standard Flight and Duty Limitations

- Maximum 14 hour duty day, flight time shall not exceed 8 hours total per day. Duty includes flight time, ground work, standby and alert status.
- Flight time shall not exceed 42 hours in any 6 consecutive days.
- Pilots accumulating 36 to 42 hours of flight time in any 6 consecutive days shall be off duty the following full calendar day.
- Within any 24-hour period, pilots shall have a minimum of 10 consecutive hours off duty prior to beginning the next duty day.
- During any 14 consecutive days, pilots shall be off duty for 2 full calendar days. Days off need not be consecutive.

The Washington Office letter of July 7, 1995, “Interagency Management Review Team (IMRT) Report, 3.9, Aviation Issues” has added the following to the flight and duty limitation rules: “During extended periods of high flight activity and 14 hour days, extra fatigue factors must be taken into consideration. Area fire and aviation managers and safety teams will monitor situations, and may implement interim flight and duty limitations for geographic areas.” There are 2 phases of increased limitations as described below:

Phase 2 – Interim Flight and Duty Limitations

- Standard duty day of 12 hours. Flight time is still a maximum of 8 hours.
- Flight crew members shall have a minimum of 12 consecutive hours of uninterrupted rest (off duty) during each duty day cycle.
- In special instances, a duty day may need to be extended to 13 or 14 hours to complete a mission. In that case, the required rest period will be extended to match

the duty day (13 hours duty, 13 hours rest; 14 hours duty, 14 hours rest).

- In no case may standby be extended beyond the 12-hour duty day limit.

Phase 3 – Interim Flight and Duty Limitations

- In addition to the Standard flight limitations and the duty limitation of phase 2, each flight crew member shall be given an additional day off in each 14 day period. Crews that work 12 and 2 shall work 11 and 3. 6 and 1 schedules become 5 and 2.
- Fixed daily rates and special rates shall continue to accrue on the extra day off.

Although these interim phases will generally be applied region-wide, an aviation manager may, at his/her discretion, impose shorter duty days or recommend additional days off at any time for any pilot or flight crewmember, if fatigue is perceived.

J. Pilot and Aircraft Approval Cards

Per FSM 5704.9, Forest Service employees shall fly only in approved government aircraft (Ref. 5705) flown by approved pilot(s). Approvals are specified in FSM 5703.1, 5712.41, 5712.43, and 5713.4.

- Pilots. All pilots flying aircraft on official business will carry a current, valid pilot qualification card (FS-5700-3, AMD-30A, or AMD-30B).
- Aircraft. No aircraft will be used on Forest Service business unless it has been inspected within the past 12 months and is approved for the mission to be flown. This information is displayed on a valid aircraft data card (FS 5700-21, FS 5700-21A, AMD-36A, AMD-36B, or EDP-47).

K. Use of Cooperator Aircraft

Non-federal cooperating agency “public use” aircraft must be formally pre-approved by the Regional Aviation Officer. This is typically done by the issuance of a letter of approval, carried on board the aircraft. In Wyoming this most commonly applies to the Wyoming State Forestry Type III Fire helicopter, WDOT and the Wyoming Army National Guard helicopters.

L. Aviation End Product Contracts

The determination for whether a proposed aviation contract qualifies as “End Product” rests with the FAO and the Forest Contracting Officer from information provided by Project Manager/COR. Form FSM 5711.2 – Exhibit 01 End Product Exhibit 01 form is a FSM 5700 requirement for determining whether a contract is “in fact” end product or a flight services contract. If it is determined that the flight is being conducted under end-product, the FS may not impose any operational control over the mission. It is important to consult

with the Forest or Regional Aviation Officer and understand what types of activities or oversight constitute “operational control.” Refer to the End-Product decision matrix in Appendix 1.

M. Aviation Security

The USFS has not established any permanent air base facilities in Wyoming or on the Routt National Forest in Colorado. During incidents in which a temporary fixed wing base or helibase are established, the Agency, at its discretion may provide night security for the unattended aircraft at the base of operations, and/or may utilize secured public use airports for parking aircraft overnight. USFS and interagency aviation contracts clearly state that the security of Contractor-provided aircraft and equipment is the responsibility of the Contractor, and that aircraft shall be electrically and/or mechanically disabled by two independent security systems whenever the aircraft is unattended. Flight Managers and individuals in certain other IAT positions may be required to complete A-116 General Security Awareness training. It is essential that every Forest Service employee, interagency partners, and contractors are familiar with the procedures for reporting any unusual or suspicious circumstances around our aviation assets.

There are three basic ways to report suspected activities. Report it to the incident Helibase or Fixed Wing Base Manager, call local law enforcement agency, or utilize the GA-SECURE Hotline at 1-866-427-3287 (1-866-GA-SECURE) which operates 24 hours a day 7 days a week. This Hotline serves as a centralized reporting system for general aviation pilots, airport operators, maintenance personnel, and other Federal agencies that want to report suspicious activity at their locations. In instances where a situation could potentially turn dangerous all personnel are strongly encouraged to contact law enforcement first.

Pilots should contact the FAA for current NOTAMS and Temporary Flight Restrictions TFRs, even for short duration local flights.

N. Flights Over Designated Wilderness Areas

The Forest Service discourages flights below 2,000 feet AGL (Above Ground Level) over designated Wilderness Areas and Wilderness Study Areas. However, we recognize there are times when it is necessary or the most effective way to performing a critical mission or task. Special approval by a line officer is required. Examples of activities that could be approved include flights in support of Fire Management (reconnaissance, fire monitoring, and fire suppression), pest management, wildlife surveys, and law enforcement. Helispots should be located outside of wilderness boundaries, except in emergencies.

O. Law Enforcement Flights

Refer to the Rocky Mountain Regional Law Enforcement Aviation Operations Plan.

P. Aviation Transport of Hazardous Materials

Aircraft utilized in suppression of wildfires and project work may be required to transport Hazardous Materials. The packaging, labeling and handling of Hazardous Materials must comply with directions found in the Aviation Transport of Hazardous Materials Guide.

A copy of the Interagency Aviation Transport of Hazardous Materials Guide, including the current DOT Letter of Exemption and a current DOT Emergency Response Guidebook, must be carried aboard the aircraft whenever operating under the provisions of the exemption. All participants on that flight must have completed the IAT (A-110) training course that pertains to transporting hazmats.

V. Aviation Safety and Accident Prevention Program

A. Safety Management System (SMS)

The Forest Service goal is to develop a safety culture that achieves and maintains a zero accident rate. A highly successful safety culture understands that every person in the organization accepts that safety is a conscious and ongoing mindset as opposed to simply a box to be checked. We understand that safety is a dynamic non-event. Consequently, we need to maintain the capability to continuously seek out and eliminate latent defects within our systems and culture. By being proactive in this area we eliminate potential causal factors that could lead to future accidents. Safety policy as such directs the actions of personnel conducting Safety Management System (SMS) processes. SMS is a balance of using regulations, process and principles safely to achieve a safety culture of high reliability.

Note that definitions in this guide are specific to the SMS process and may not read exactly the same as definitions in sections of the FSM 5100, 5700 or 6100. Definitions in this section are taken from the Federal Aviation Administration SMS Framework.

Safety Management System (SMS) is the formal, top-down business-like approach to managing safety risk. It includes systematic procedures, practices, and policies for the management of safety. The four components of SMS are safety policy, safety risk management, safety assurance, and safety promotion.

Safety Policy: Management has defined the policy and doctrine in FSM 5700 that conveys aviation safety expectations and objectives to employees. Management expectation is that aviation personnel must adhere to the stated policy and best practices. US Forest Service aviation safety policy is stated in FSM 5720 and addresses roles, responsibilities, and authorities regarding aviation safety at each organizational level. Every line officer, manager, supervisor, and employee is expected to manage risk exposure by identifying and abating hazards, refusing to accept unnecessary risk, and making risk-related decisions at the appropriate level.

Safety Risk Management: The objective of a Safety Management System is to provide a structured management system to control risk in operations. Risk is

described in terms of severity of consequences (how much harm) and likelihood (how likely we are of suffering harm). We can identify and analyze the factors that make us more or less likely to be involved in accidents or incidents, as well as the relative severity of the outcomes. We then use this knowledge to set system requirements and take steps to insure that they are met. The Agency develops processes to understand the critical characteristics of its systems and operational environment and applies this knowledge to the identification of hazards, risk decision-making, and the design of risk controls.

Safety Assurance: The safety assurance component involves processes for quality control, mishap investigation and program reviews. Repeated exposure to risk without incurring an incident creates complacency and a loss of respect for risk, or “normalization of deviance”. Statistically these deviations will eventually manifest themselves in an accident scenario. Pro-active management recognizes the need for controls to manage hazardous behaviors and pull employees back into best practices. Safety Assurance requires controls and mitigations to be continuously validated.

Safety Promotion: The organization must promote safety as a core value with practices that support a positive safety culture. Safety promotion can be accomplished through safety awards, training and education systems (i.e. IAT) and communication. Publications such as Safety Alerts, Aviation Lessons Learned, Aviation Accident Prevention Bulletins, and annual Aviation Accident Review summaries are designed to promote open lines of communication, both up and down the chain of command.

B. SAFECOM Reporting System

The purpose of the SAFECOM system is for accident prevention through trend analysis. Employees and Contractors are encouraged to utilize this tool for reporting any condition, observance, act, maintenance problem, or circumstance which has the potential to cause or prevent an aviation or aviation-related accident. While it is imperative that problems and issues be addressed with corrective action taken at the local level, it is beneficial to share problems and solutions system-wide. **The Forest Aviation Officer must be immediately notified of all accidents, incidents involving injuries or property damage, or incidents with serious potential.** If you are unable to contact the Forest Aviation Officer, notify Dispatch and/or the FMO.

The SAFECOM system encourages open and honest reporting of our mistakes and failures, as well as our successes, and shall be promoted by all levels of management. SAFECOMs must only be utilized appropriately in a non-punitive manner for the purposes of accident prevention. They should be utilized in tailgate safety sessions, after action reviews, and briefings only after they have been properly managed through the system and released publically in their final format.

Reports will be electronically submitted at www.safecom.gov which automatically enters them into the national database. The “authored by/reported by” block of information is optional but extremely helpful to complete so that aviation officers can contact the

reporting person if there are additional questions to ask or further action to take. If you are not sure whether an observed act or incident warrants submitting a SAFECOM, contact the Forest Aviation Officer or Regional Aviation Safety Manager to discuss it. When in doubt, do not simply “let it go” since the next flight may result in an accident. There is a proven direct and inverse statistical relationship which confirms that increased reporting results in fewer incidents and accidents. Remember, for an organization to evolve into a true HRO “Safety Culture,” it must also become a “Reporting Culture.”

C. Incident Accident Response Plans

The procedures for responding to overdue, missing, or downed aircraft are maintained and reviewed/updated annually at each Dispatch Center. The Forest Aviation Officer will review and maintain a copy of each Dispatch Center’s Mishap Response Plan on file, and provide recommendations where needed. Each Center Manager is responsible for training the current year’s Dispatch staff and testing employees with a proficiency drill. (Ref. Sec. II. C. 3. above)

All actions taken and all notifications must be documented by Dispatchers and others involved in any aspect of a mishap response. A detailed sample format that represents the best practice for responding to an aviation mishap is provided in Appendix 3. ***Note: The format found in the suggested example is not yet required by policy. However, it is a Draft of a standardized interagency format that is likely to become a requirement in the near future. Dispatchers are encouraged to test and utilize it at least in simulation drills at this time.***

D. Flight Hazard Maps

Each Interagency Dispatch Center maintains flight hazard maps for areas on and around the National Forest Areas. These maps are updated every spring and distributed to the Dispatch Centers and Field. Pilots should always be alert for unmarked hazards. New and unlisted hazards should be reported to the Dispatch Office for hazard map updates. Pilots flying low-level missions on Forest incidents and projects will be briefed on the hazards before the mission. A high level reconnaissance flight should always be conducted to locate and identify hazards prior to descending to lower altitudes to conduct mission work.

Qualified Aircraft Dispatchers are required to deconflict Military Training Routes (MTRs) and Special Use Airspace (SUA) in conjunction with dispatching aircraft into known hazardous areas depicted on Sectional Aeronautical charts as an MTR corridor or Special Use Airspace (SUA).

V. Appendix 1: Decision matrix for distinguishing between End Product and Flight Services contract

5711.2 - Exhibit 01 End Product Exhibit

If the answer is YES to any question below you must use the flight services process and contract. If the answers are NO, you may use the end-product contract.	Aerial photo remote sensing	Aerial application (spray/seed)	Aerial Ignition	Animal capture (net gun, dart, paintball, etc.)	Animal herding/gathering	Your project *
¹ Are agency personnel going to be on the aircraft for this mission?						
^{2, 10} Is the aircraft currently being used as a public aircraft?						
³ Is a Flight Manager or Helicopter Manager required for this mission?						
⁴ Is flight following required for this?						
⁵ Are you asking or requiring (written or verbal) the pilot/crew to wear PPE?						
⁶ Are you asking for a specific aircraft and/or imposing any pilot requirements (i.e. Cessna 206, or pilot must have PPE and Flight helmet)?						
⁷ Are you requiring "pilot standards"?						
⁸ Are you directing aircraft maintenance?						
⁹ Are you controlling or directing aircraft "movement" (telling the aircraft where to go, how to do the project, how often to check in)?						
¹⁰ Are you requesting exclusive control? Is the aircraft already under Government contract?						

* This may include incidental use of aircraft for various missions not identified in the exhibit. When evaluating such missions, local or regional aviation managers can assist in making decisions on type of procurement to use.

The _____ Project is recommended to be performed as an End Product Contract.

Reviewed By: _____ Forest Aviation Officer, _____ National Forest Date: _____

Appendix 2: Sample Project Aviation Safety Plan (PASP) format

MBRTB PROJECT AVIATION SAFETY PLAN

Primary/Host Agency: (Identify) <input type="checkbox"/> USFS Unit: <input type="checkbox"/> BLM Unit:		Interagency Operation: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<input type="checkbox"/> Fire Operation <input type="checkbox"/> Resource Operation <input type="checkbox"/> Law Enforcement Operation		<input type="checkbox"/> Fixed Wing Operation <input type="checkbox"/> Helicopter Operation	
Type of Flight	<input type="checkbox"/> Point to point:	<input type="checkbox"/> Special Use:	<input type="checkbox"/> Reconnaissance: <input type="checkbox"/> Other:
<input type="checkbox"/> New Project, full review required		<input type="checkbox"/> Currently approved project/activity, FYI to Regional personnel	
Project Name:		Anticipated Project Date:	
Project Plan Prepared by Name of Preparer:		Title:	Date:
This Flight is Reviewed and Submitted by Project Manager:		Title:	Date:
Project Plan Reviewed by: Jay Miller		Title: MBRTB Aviation Manager	Date:
Project Plan Reviewed by: Sandra LaFarr		Title: Region 2 RAO	Date:
Project Plan Approved By:		Title: Line Manager	Date:
Project Description: Include (Flight Objectives to Achieve Mission)			

ADMINISTRATIVE INFORMATION

Project Supervisor:		Phone:		Cell:	Sat:
Alternate Supervisor:		Phone:		Cell:	Sat:
Fixed Wing Manager:		Phone:		Cell:	Sat:
Fixed Wing Manager-Special Use:		Phone:		Cell:	Sat:
Fire Helicopter Manager:		Phone:		Cell:	Sat:
Project Helicopter Manager:		Phone:		Cell:	Sat:
Unit Aviation Officer:		Phone:		Cell:	Sat:
Charge Code:	AMD Billee Code:	<input type="checkbox"/> OAS-23	<input type="checkbox"/> ABS	<input type="checkbox"/> CWN#	<input type="checkbox"/> ARA#
Aircraft Availability (Per Day):	Aircraft hourly rate:	Fixed Wing Standby rate: x hours=			
RON x personnel =	"Minimum" number of hours per day:	Heli-Service Truck Rate:			
Seeder:	Helitorch:	Batch Truck:			
Extended Pilot:	Extended Driver:	Other:			
Total Per Day:	Number of days estimate			Total cost	
Projected Total Cost =					
Vendor:	Vendor Phone:		Vendor Cell:		
Aircraft Information:	Make and Model:		Color:		
Pilot Name:	Pilot Phone #		Pilot Cell #:		
Driver Name:	Driver Phone #		Driver Cell #		
Aircraft carded: <input type="checkbox"/> Yes <input type="checkbox"/> No			Pilot carded: <input type="checkbox"/> Yes <input type="checkbox"/> No		

FREQUENCY INFORMATION

RESOURCE TRACKING INFORMATION

Aircraft Home Base Location:	Resource Order #		Flight #	
Ferry Flight Following and tracking	<input type="checkbox"/> Initiate and terminate By Phone:	<input type="checkbox"/> Radio:		
<input type="checkbox"/> FAA VFR with 60 minute check in:	<input type="checkbox"/> FAA IFR:			
Ferry Start Time:	Stop(s):	Stop(s):	Ferry Ending Time:	
Scheduling Dispatch Phone:	Contact: Aircraft Desk Notes:			
Destination Dispatch Phone:	Contact: Notes:			
Project Flight Following:	<input type="checkbox"/> Local Agency 15 minute:	<input type="checkbox"/> AFF equipped aircraft:		
Search and Rescue Procedures: District Aircraft Mishap Plan, Local SAR Plan"				

LANDING SITE(S) INFORMATION

Project Start Location:	Runway Length:	Elevation:	Surface:
Destination Location:	Runway Length:	Elevation:	Surface:
Destination Location:	Runway Length:	Elevation:	Surface:
Ending Location:	Runway Length:	Elevation:	Surface:
Helibase or Helispot Information Lat/Long: BLM: NPS: FS: Private: State:	Location by landmark:	Contact:	Phone:
Helibase or Helispot "approval-to-use" from landowner/manager: <input type="checkbox"/> Yes <input type="checkbox"/> No			
Fuel Truck Location(s):			

PASSENGER INFORMATION -

Passengers			
Name:	Weight:	Dept Pt:	Destination Pt:
Supervisor:	Phone:		Current B-3:
Name:	Weight:	Dept Pt:	Destination Pt:
Supervisor:	Phone:		Current B-3:
Name:	Weight:	Dept Pt:	Destination Pt:
Supervisor:	Phone:		Current B-3:
Name:	Weight:	Dept Pt:	Destination Pt:
Supervisor:	Phone:		Current B-3:
Name:	Weight:	Dept Pt:	Destination Pt:
Supervisor:	Phone:		Current B-3:
Cargo			
Weight:	CU FT:	Hazardous Mat <input type="checkbox"/> Yes: <input type="checkbox"/> No:	Destination:
Weight:	CU FT:	Hazardous Mat <input type="checkbox"/> Yes: <input type="checkbox"/> No:	Destination:

PPE REQUIREMENTS

Type of flight	Personal Protective Equipment Requirements
<input type="checkbox"/> Fixed wing, point to point	<input type="checkbox"/> Appropriate field attire based on the season, hearing protection recommended
<input type="checkbox"/> Fixed wing, mission flight, 500' above	<input type="checkbox"/> Field attire mandatory, (long natural fiber pants and shirt) PPE recommended
Fixed wing, mission flight, 500" and below (DOI)	<input type="checkbox"/> Full PPE required
<input type="checkbox"/> All Helicopter operations	<input type="checkbox"/> Full PPE required

RISK MANAGEMENT

Risk Management follows a five-step cyclic process that must be integrated into the decision making process at all levels. The five steps are as follows (see IHOG 3-2, for Risk Management Applied):

1. Identify Hazards
2. Assess Hazards
3. Implement Controls (mitigations)
4. Make Risk Decision
5. Supervise

In keeping with the steps above, a thorough review of the completed System Safety Risk Assessments applicable to the planned mission(s) must be conducted and all hazards mitigated in like or appropriate manner. The hazards and mitigations listed in the Aviation Program Risk Assessments are thorough but incomplete. Each project will likely have additional hazards that must be identified, assessed, and mitigated. Then the risks must be weighed against the expected benefit of performing the operation.

Risk Management Instructions: To conduct a complete Risk Analysis for your project: **1.** Review and utilize the applicable System Safety data available at http://www.fs.fed.us/fire/av_safety/Systems_Safety/av_risk_mgt/index.html ; **2.** Implement the mitigations as listed in the System Safety Assessments; **3.** Complete and follow the reminder lists below; and **4.** Conduct your individual analysis of the project following the five steps above and utilizing the Risk Assessment Matrix provided in this document. System Safety has predetermined values, but, as mentioned above, each project will present its own specific hazards that you must identify, mitigate, and manage.

Job Risk Analysis Reminder List (check appropriate boxes)

Is there an alternative method that would accomplish the mission more safely?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is everything approved with clear instructions?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are communications and flight following established?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Can terrain, altitude, temperature or weather that could have an adverse effect be mitigated?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Will the mission be conducted at low levels? (Below 500' AGL)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Can the same objective be achieved by flying above 500' AGL?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all aerial hazards identified and known to all participants?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Have mitigating measures been taken to avoid conflicts with military or civilian aircraft	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Have adequate landing areas been identified and or improved to minimum standards	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all agency personnel qualified for the mission?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the pilot carded and experienced for the mission to be conducted?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are pilot flight and duty times compromised?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is there enough agency personnel to accomplish the mission safely?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Will adequate briefings be conducted prior to flight?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Are all involved aware that the pilot has the final authority, but if any passenger feels uncomfortable, that they can decline the flight without fear of reprisal?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the aircraft capable of performing the mission with a margin of safety	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Is the aircraft properly carded?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
Do all personnel have the required PPE	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA

Job Hazard Analysis Reminder List (check appropriate boxes)

Issue	Mitigating Measure
<input type="checkbox"/> MTR's and MOA's	<input type="checkbox"/> Check routes in advance. Practice risk management.
<input type="checkbox"/> Private aircraft	<input type="checkbox"/> See and avoid.
<input type="checkbox"/> Airport traffic	<input type="checkbox"/> Stay in radio contact, sterile cockpit

<input type="checkbox"/> Weather	<input type="checkbox"/> Use weather advisory. Maintain VFR minimums.
<input type="checkbox"/> Terrain	<input type="checkbox"/> Maintain separation. Do not place the aircraft in performance related situations.
<input type="checkbox"/> Low level obstacles	<input type="checkbox"/> Complete a high level recon, no unnecessary low level flight operations.
<input type="checkbox"/> Unimproved landings	<input type="checkbox"/> Recon LZ. Download on first load.
<input type="checkbox"/> Doors off helicopter operations	<input type="checkbox"/> Use secondary restraining harness and protected blade raptor type knife. Remove loose items from cabin.
<input type="checkbox"/> Pilot not familiar with area	<input type="checkbox"/> Supply hazard maps. Complete high level recon prior to low level operations.
<input type="checkbox"/> Noise, rotor wash	<input type="checkbox"/> Wear ear and eye protection.
<input type="checkbox"/> Internal and external loads	<input type="checkbox"/> Have trained personnel assigned to the mission. Follow agency policies.
<input type="checkbox"/> Unplanned aircraft events	<input type="checkbox"/> All personnel equipped with PPE, survival gear and trained in crash procedures.
<input type="checkbox"/> Hazardous materials	<input type="checkbox"/> Trained personnel will identify, manifest and insure that the pilot is aware.
<input type="checkbox"/> Non aviation personnel	<input type="checkbox"/> Maintain control, provide through briefings.
<input type="checkbox"/> Communications	<input type="checkbox"/> Maintain communications at all times, establish backup options and acquire alternate frequencies. Take a handheld FM radio on each flight. Call in prior to landing. If radio contact is lost, climb, check tones, etc. If unable to re-establish contact, return to best suitable landing area and check in via landline.
<input type="checkbox"/> Overload conditions/CG issues	<input type="checkbox"/> Complete accurate load calculations and or weight and balance.
<input type="checkbox"/> Winter/cold weather operations	<input type="checkbox"/> Utilize appropriate clothing for conditions, acquire and maintain a survival kit.
<input type="checkbox"/> Prop/rotor hazards	<input type="checkbox"/> Pilot shall provide a safety briefing; approach and departures shall be away from hazards.
<input type="checkbox"/> Multiple aircraft operations	<input type="checkbox"/> Provide adequate aerial supervision. Establish and maintain separation, utilize common frequencies.
<input type="checkbox"/> Aircraft Refueling	<input type="checkbox"/> Refueling is the responsibility of the vendor/pilot. Agency personnel shall not be on board. Aircraft shall be shutdown, unless rapid refueling is approved and requested by agency personnel.

Additional Hazard Identification, Assessment, and Controls specific to the project

SYSTEM SAFETY RISK ASSESMENT MATRIX

	SEVERITY			
LIKELIHOOD	Negligible	Marginal	Critical	Catastrophic
Frequent	Medium	Serious	High	High
Probable	Medium	Serious	High	High
Occasional	Low	Medium	Serious	High
Remote	Low	Medium	Medium	Serious
Improbable	Low	Medium	Medium	Medium

-Steps 1 & 2: Identify and describe the hazards present for this project. Assess the **Likelihood** of an occurrence of each hazard and determine the potential **Severity** of the outcome by referring to the definitions at the System Safety Matrix site. Click on this link: http://www.fs.fed.us/fire/av_safety/Systems_Safety/av_risk_mgt/matrix.pdf and then click the link to the **Risk Assessment Matrix**.

Once you have identified the likelihood and severity, determine the **Risk Level** using the matrix above.

-Step 3: Identify the mitigation controls to follow that will reduce the **Likelihood** of a hazard occurrence. ****Remember**, the severity will likely remain the same as first determined. The mitigations generally only affect the likelihood of an occurrence. Once you have established the mitigations and changed the likelihood, determine the post-mitigation **Risk Level**.

Describe Hazard: Pre-Mitigation hazards rate out as:	Likelihood	Severity	Risk Level
1.			
2.			
3.			
4.			
Mitigation Controls: Post-Mitigation hazards rate out as:	Likelihood	Severity	Risk Level
1.			
2.			
3.			
4.			

Total Risk Assessment Value (The highest risk level identified from the System Safety Assessments and determined risks shall be applied as the overall total risk value):

☐ Low

☐ Medium

☐ Serious

☐ High

Project Justification Statement: This project cannot be accomplished by any other means. The area that will be flown has very limited road access primarily in a wild and scenic river corridor. The type of terrain and vast amount of area that needs to be covered makes foot traffic impossible.

Step 4: Make Risk Decision - weigh the risk against the benefit of performing the operation. From the determined overall risk, a determination must be made to conduct the operation as planned, apply further controls that may reduce the overall risk further, or not to perform the operation.

Line Officer Initials: _____

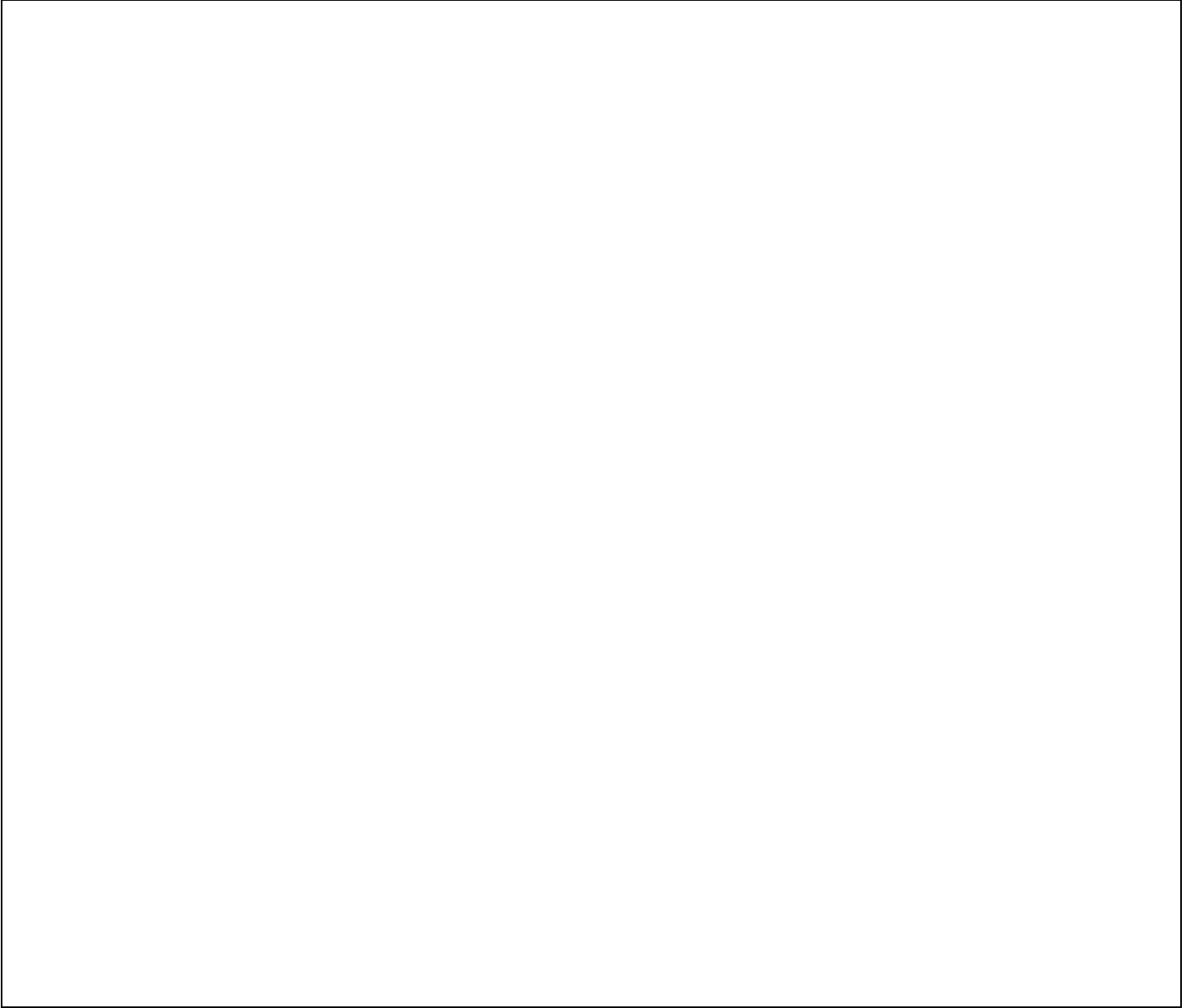
AIRSPACE MANAGEMENT

MTR	Segment	Flight Level	Activity	Time	Time Zone
<input type="checkbox"/> IR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> IR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> IR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> IR			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/> VR:			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
MOA information					
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input checked="" type="checkbox"/> UTC <input type="checkbox"/> MST
Aerial Refueling Routes					
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input type="checkbox"/> UTC <input type="checkbox"/> MST
<input type="checkbox"/>			<input type="checkbox"/> Hot <input type="checkbox"/> Cold	Start Stop	<input type="checkbox"/> UTC <input type="checkbox"/> MST
MTR/MOA de-confliction procedures: Resource aviation operations will yield to military operations. If an MTR/MOA becomes active, the land management operation will cease during the time the MTR/MOA is active.					
NOTAM (D) to be developed for the project: <input type="checkbox"/> yes <input type="checkbox"/> no					
Dispatch has checked military operations prior to operations <input type="checkbox"/> Yes <input type="checkbox"/> No					

PROJECT MANAGER PRE-OPERATIONAL CHECKLIST

<input type="checkbox"/> Approved and signed project plan	<input type="checkbox"/> Carded pilot	<input type="checkbox"/> Carded Aircraft
<input type="checkbox"/> Qualified Manager	<input type="checkbox"/> Qualified Crewmembers	<input type="checkbox"/> Hazards Identified
<input type="checkbox"/> Maps of areas/sites	<input type="checkbox"/> Notify Dispatch	<input type="checkbox"/> Weather
<input type="checkbox"/> MTR's MOA's	<input type="checkbox"/> Brief Pilot	<input type="checkbox"/> Brief Passengers
<input type="checkbox"/> PPE	<input type="checkbox"/> Load Calc or Weight and Balance	<input type="checkbox"/> Weights of passengers and equipment
<input type="checkbox"/> Fuel Planning	<input type="checkbox"/> Fuel Truck Locations	<input type="checkbox"/> Permission to land/utilize areas
<input type="checkbox"/> Radio Frequencies / Tones	<input type="checkbox"/> Hobbs Start/End	<input type="checkbox"/> Day/Survival Packs
<input type="checkbox"/> Handheld Radios	<input type="checkbox"/> Satellite Phones	<input type="checkbox"/> Puke Bags

MAP OF PROJECT SITE:



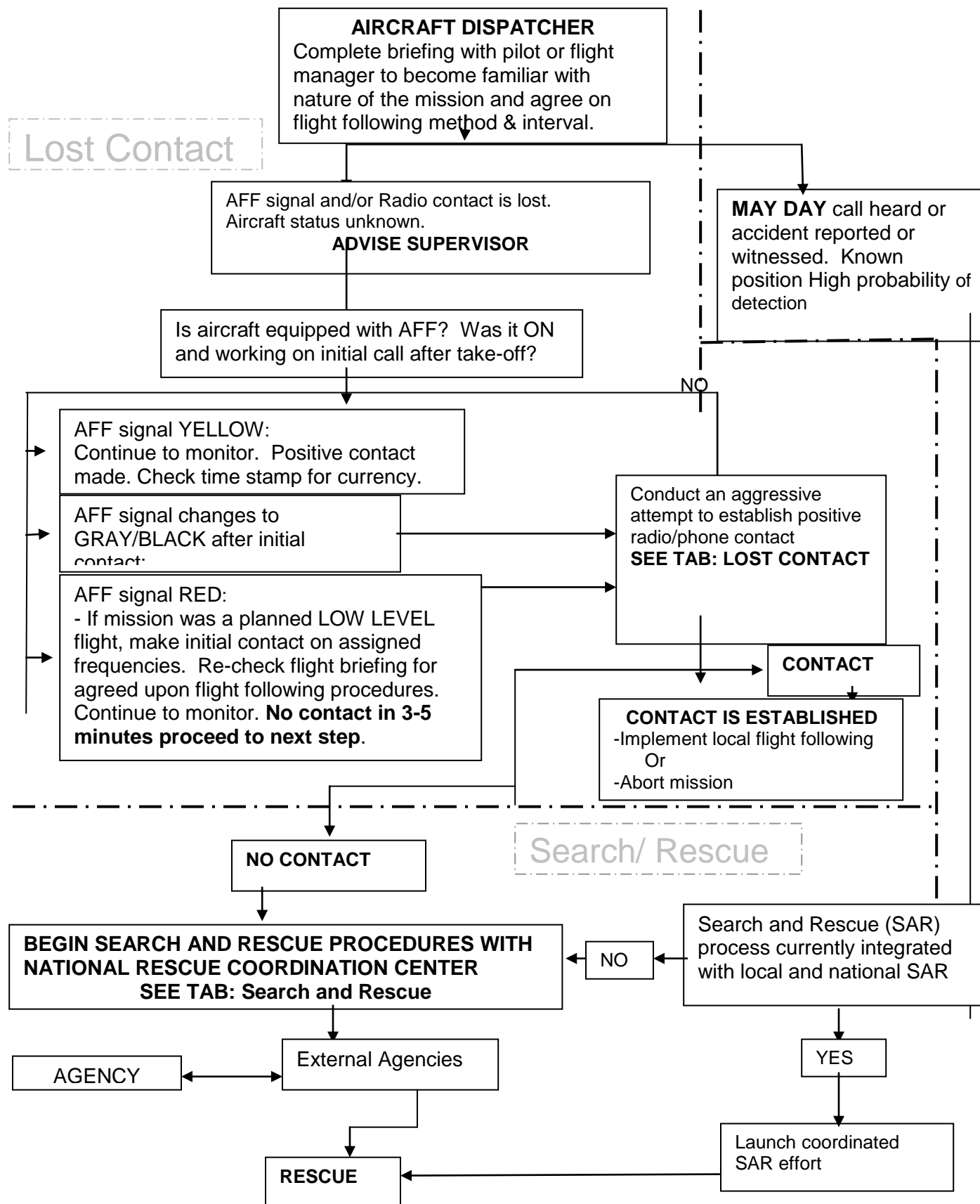
WEATHER FORECAST:



POST-BRIEFING PARTICIPANT SIGNATURES:

Aircraft Manager:	Signature	Date:
Pilot:	Signature:	Date:
Other Participants:	Signature:	Date:

Appendix 3: Sample Aircraft Lost Contact and SAR Response flow chart and checklists:



LOST CONTACT CHECKLIST

- _____ Attempt contact on all available frequencies
- _____ Contact all appropriate phone numbers
- _____ Continue to monitor AFF
- _____ Determine and document last known position of aircraft.
- _____ Print out AFF last known position if available
- _____ Supervisor: Contact local Aviation Manager/ Fire Management Officer
- _____ Fill out Aircraft Information Sheet (see example below)
- _____ **Document** all contacts and actions using dispatch center standard protocol.
- _____ Delegate duties as needed

SEARCH AND RESCUE CHECKLIST

- _____ Establish Primary Point of Contact for SAR event (i.e. Aviation Manager, FMO)
- _____ Continue with radio/phone search move forward with Search and Rescue
- _____ Complete the Aircraft information sheet
- _____ **SAR section of MISHAP RESPONSE COMMUNICATION TREE is initiated**
 - i. **LOCATION KNOWN? Call local 911/EMS**
Ensure the most accurate number of souls involved is relayed
 - ii. **LOCATION UNKNOWN? Call National Rescue Coordination Center**
Event point of contact calls the RCC. The RCC will initiate the search with the FAA and other appropriate agencies.
- Air Force Rescue Coordination Center - 48 contiguous states**
Tyndall AFB, FL. 850-283-5955 or Call Toll-free 800-851-3051
- Information for Rescue Coordination Center (RCC):**
 - Inform the RCC an aircraft has not checked in, location is unknown
 - Give information from the Aircraft information sheet (or FAX sheet)
 - Ensure a contact name and call back phone number is given to the RCC.
- _____ Continue with SAR portion of **MISHAP RESPONSE COMMUNICATION TREE**
- _____ Communication is maintained with Event Point of Contact.
- _____ If applicable, ensure that the vendor is contacted

Aircraft Information Sheet

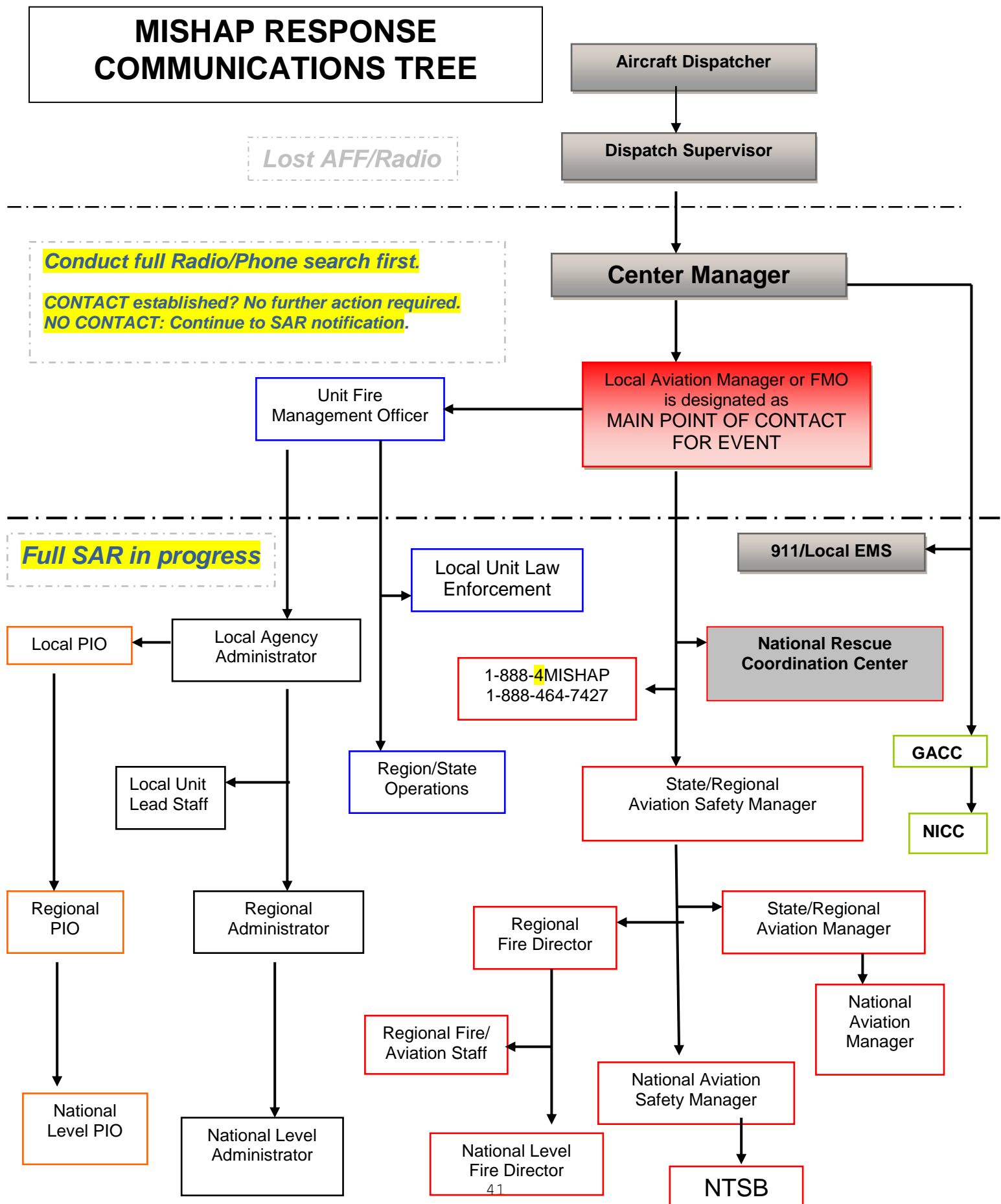
Fill out as much as possible obtain the following information on the aircraft:	
CAUTION: Do not announce over the radio the names of individuals involved in missing aircraft.	
1.	Name of pilot(s):
2.	Name of passenger(s) and agency affiliation. How many?
3.	Aircraft registration number ``N" -
4.	Type of aircraft -
5.	Color of aircraft -
6.	Type of mission -
7.	Last known location: time, latitude, and longitude.
8.	Point of takeoff and time.
9.	Destination and ETA.
10.	Was flight plan filed with FAA and/or Agency?
11.	Fuel duration in hours and minutes as reported on initial contact?
12.	Last reported Course heading and speed.

MISHAP RESPONSE COMMUNICATIONS TREE

Lost AFF/Radio

Conduct full Radio/Phone search first.

**CONTACT established? No further action required.
NO CONTACT: Continue to SAR notification.**



Procedures checklist for designated point of contact for SAR event (Forest Aviation Officer or Fire Management Officer)

LOST CONTACT: Aggressively trying to make contact

- _____ Maintain contact with the Dispatch Center Manager
- _____ Document all actions and conversations
- _____ Obtain copy of Aircraft information sheet
- _____ Maintain contact with dispatch supervisor or center manager

CONTACT MADE

- Document events and outcome.
- If requested by dispatch, help determine if mission should continue or aborted

NO CONTACT

- Transition to Search and Rescue procedures

SEARCH AND RESCUE:

- _____ Activate **Mishap Response Communications Tree**
- _____ **LOCATION KNOWN:** Confirm that local 911/EMS has been contacted
- _____ **LOCATION UNKNOWN:** Contact appropriate Rescue Coordination Center
- _____ Ensure that 1-888-MISHAP has been called
- _____ State/Regional Aviation Safety Manager has been contacted

Local Unit Coordination in conjunction with the Rescue Coordination Center (RCC) Efforts

- After initial coordination request, and if an agency aircraft is available, request an RCC assigned search number, search radio frequency, and approval to conduct a route search or a grid search. If Agency Aircraft are not available request an aerial search by the responsible SAR agency
- Continue coordination in-house and with other SAR agencies

Document all actions and conversations

Phone Contact List

LOST CONTACT phone list:

Dispatch Center Manager	<u>Casper</u>	<u>307-261-7691</u>
	<u>Craig</u>	<u>970-826-5037</u>
Local Unit Aviation Manager	<u>Jay Miller</u>	<u>307-745-2415</u>
Local Unit Fire Management Officer	<u>Vern Bentley</u>	<u>307-745-2365</u>

SEARCH AND RESCUE phone list:

Local EMS/911 or SAR organization	<u>Casper</u>	<u>911</u>
	<u>Craig</u>	<u>911</u>
Rescue Coordination Center		<u>1-800-851-3051</u>
Regional Aviation Safety Manager	<u>J. Kent Hamilton</u>	<u>303-275-5711</u>
Local Unit Law Enforcement	<u>Shawn Graef Patrol Captain</u>	<u>307-745-2452</u>
	<u>Wyoming LEO Steve May</u>	<u>307-745-2442</u>
	<u>Colorado LEO Nick Walters</u>	<u>970-638-4163</u>

AGENCY ADMINISTRATORS:

Forest Supervisor	<u>Dennis Jaeger</u>	<u>307-745-2400</u>
Public Affairs Officer- Local unit	<u>Aaron Voos</u>	<u>307-745-2323</u>
Regional Operations Manager	<u>Troy Hagan</u>	<u>303-445-4331</u>
Public Affairs Officer, Regional	<u>Lawrence Lujan</u>	<u>303-275-5356</u>
Regional Fire Director	<u>Willie Thompson</u>	<u>303-275-5736</u>
Regional Aviation Manager	<u>Sandra LaFarr</u>	<u>303-275-5740</u>
National Aviation Safety Manager	<u>Ron Hanks</u>	<u>208-387-5607</u>
National Aviation Manager	<u>Art Hinamin</u>	

Media Relations

The following information and guidelines will assist you in responding to media inquiries regarding a mishap, accident or incident.

- Many media outlets have radio scanners and may call at the first mention of an accident or incident. Also, in today's digital age and media environment, with people having access to cell phones, iPods, and other digital capabilities, virtually anyone can be an instant reporter. Staff at dispatch and coordination centers and home units must be prepared to respond immediately and before an NTSB investigation team is set up and prepared to respond.
- It's important to be responsive to the media, but it's critical that you do not release any detailed information, particularly in the early stages of an accident or incident.
 - You can acknowledge that you have an initial report, but explain there are no other details available.
 - It's especially important that you not release any information about names of individuals known or presumed to have been on board the aircraft.
 - Similarly, it's important to not release preliminary information about aircraft type, location, or specific mission, as many family members could be affected without confirmation.
 - Never say "no comment," in response to a question as that indicates you are hiding something or otherwise purposely keeping information from them. Instead, politely explain that you don't have the necessary information to respond further.
- Responding to media calls can be an unsettling experience for many, but realize that reporters are people, too, and only doing their job, just as you are. Treat them with respect – remember, they can be a great ally or your worst enemy – and be polite and responsive but don't speculate or provide detailed information. Leave any responses beyond explaining that you don't have the necessary information to professional information officers.
- Every dispatch office or coordination center should maintain a current list of public affairs or information officers to contact in the event of an emergency. This contact should be made as early in the process as possible to relieve dispatch or coordination center personnel of dealing directly with media calls so they can focus on needs associated with the incident or accident.
- Once an information or public affairs officer has been notified, calls can simply be referred to him or her. This person also should be in contact with the NTSB investigator or information officer and can handle media inquiries as requested by the investigation team.
- Once an NTSB investigation team is in place, and if the local information officer is not available, obtain the name and phone number of the lead investigator or the team's incident information officer, contact them and ask how they would like media calls to be directed.
- Remember, the sooner a public information officer or public affairs officer is contacted, the sooner all media calls can be diverted from the workload of Dispatch or Coordination Center.

Accident Site Preservation

Establish Inner and Outer Perimeter

- Protect property utilizing law enforcement agencies to guard site access.
- Prevent the disturbance of wreckage and debris except to preserve life, rescue the injured, or protect the wreckage from further damage
- Protect and preserve ground scars and marks made by the aircraft
- Admit Public Safety personnel access to the wreckage to the extent necessary to preserve life, and/or stabilize HAZMAT
- Maintain a record of personnel who enter the accident site

BIOHAZARD/HAZMAT

- Potentially dangerous materials that might be present may include but are not limited to: Chemicals-Explosives-Biological-Radioactive materials, fuel, pressure vessels, compressed air, hydraulics, batteries, accumulators, igniters, oxygen systems, oxygen bottles, fire extinguishers, evacuation chutes, flares, composite materials, ballistic parachute systems, tires

Wreckage Documentation (if possible)

Use best judgment to obtain these goals

- Obtain aircraft registration number (N number)
- Obtain number of casualties
- Photograph or video the overall wreckage including cockpit starting at the initial point of impact if possible
- Photograph or video any ground scars or marks made by the aircraft

Injured/Fatalities

- Coordinate with the NTSB prior to the removal of fatalities. If unable, document that part of the scene to be disturbed, including switch/control positions, and instrument/gauge readings

Prior to Investigation Team Arrival on Scene, Restrict Access only to Authorized Personnel

- Land Management Agency personnel
- FAA/NTSB
- Police/Fire/EMS
- Medical Examiner/Coroner

Witness Documentation

- Obtain name / address / phone numbers (home & work)
- Obtain their location relative to the accident site
- Obtain description of what they observed or heard
- Obtain name of person reporting accident (911 Tapes)

Tip for Dispatch: Preparing For Agency Investigation Team

Please see agency handbooks for additional requirements.

- Statements from the witnesses and personnel involved from remote distance (i.e. Dispatchers, incident communications unit, ATGS, HELCO, other pilots, etc.). Their statements are very important when it comes to what they heard or saw
- Weather at the time of accident, what was the weather at the time of the event? Temperature, wind direction, approximate visibility, sunny, cloudy, what was predicted? Find records and documentation.
- Forest/Unit must designate a point of contact for the incoming team (usually a line officer)
- If involved on a fire incident, identify a point of contact from the IMT (i.e. ASGS, AOBD)
- Preserve and secure all radio/dispatch logs and tapes.
- Secure the fuel truck that the aircraft was last fueled from (If from a Airport's FBO, inform the airport manager in case he needs to alert other aircraft/operators that had been fueled from the same fueling vehicle.)
- Please have witnesses and personnel involved with the incident stay in the local area in case the NTSB needs to ask some additional information. (Agency Aviation Contracts require that the pilot who was involved in the incident must remain in the area and be available to speak with investigators unless seriously injured or deceased. Vendor personnel or their insurance company may NOT tamper with or move/remove wreckage until cleared to do so by the accident investigation team.)

Appendix 4
AIRCRAFT FLIGHT REQUEST/FLIGHT SCHEDULE

SCHEDULE CHANGE #:

6. AIRCRAFT INFORMATIONFAA N#:

1. INITIAL REQUEST INFORMATIONCOST-ACCOUNT/MANAGEMENT CODE(s):BILLEE CODE

FLIGHT SCHEDULE #:

INITIAL DATE/TIME:TO/FROM:PHONE NUMBER:MAKE/MODEL:# SEATS:COLOR:CHECK ONE:() POINT-TO-POINT FLIGHT() MISSION FLIGHTDESIRED A/C TYPE:() HELICOPTER() AIRPLANEVENDOR:PHONE #:PILOT(S):

PASSENGER/CARGO INFORMATION: INDICATE BY ASTERISK WHICH PASSENGER LISTED BELOW IS CHIEF-OF-PARTY.

NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO	NAME/TYPE OF CARGO	LBS OR CU FT	PROJECT ORDER/REQUEST NO.	DEPT ARPT	DEST ARPT	RETURN TO

3. PASSENGER/CARGO INFORMATION: INDICATE BY ASTERISK WHICH PASSENGER LISTED BELOW IS CHIEF-OF-PARTY

DEPART WITH			DEPART FROM			ENROUTE	ARRIVE AT			DROP OFF		KEY POINTS	INFO RELAYED
DATE	No. Pax	Lbs.	Airport/place	ETD	ATD	ETE	Airport/place	ETA	ATA	No. Pax	Lbs.	Drop-Off Points, Refueling Stops, Flight Check-ins, Pickup Points	TO/FROM

4. FLIGHT FOLLOWING

() FAA IFR() SatelliteMinutes To() FAA VFR() FAA or () AgencyMinutes() Agency VFR With Check-in via radio every

Frequencies: NameRx:Tx:Tone

5. METHOD OF RESOURCE TRACKING:

(X) PHONEor() RADIO() To Scheduling Dispatcher @ (PHONE NUMBER)() Prior to Takeoff() Each Stop Enroute() Arrival at Destinations() To: @ (OTHER OFFICE) (PHONE NUMBER)

7. ADMINISTRATIVE

Type of Payment Document:
() AMD-23 or () AMD-2
() FS 6500-122
OTHER:
Route Document To:

9. CLOSE-OUT

CLOSED BY:DATE/TIME:

8. REVIEW (if applicable)

Hazard Analysis PerformedDispatch/Aviation Mgr ChecklistOther

FORM 9400-1b HAZARD ANALYSIS AND DISPATCH/AVIATION MANAGER CHECKLIST

I. MISSION FLIGHT HAZARD ANALYSIS (fire flights exempt provided a pre-approved plan is in place). The following potential hazards in the area of operations have been checked, have been identified on flight itinerary map, and will be reviewed with Pilot and Flight Manager prior to flight:

<input type="checkbox"/> Military Training Routes (MTRs) or Special-Use Airspace (MOAs, Restricted Areas, etc.)	<input type="checkbox"/> Towers and bridges	<input type="checkbox"/> High elevations, temperatures, and weights:
<input type="checkbox"/> Areas of high-density air traffic (airports); Commercial or other aircraft	<input type="checkbox"/> Other aerial obstructions:	MAX LANDING ELEV (MSL): _____
<input type="checkbox"/> Wires/transmission lines; wires along rivers or streams or across canyons	<input type="checkbox"/> Pilot flight time/duty day limitations and daylight/darkness factors.	MAX FLIGHT ALTITUDE (MSL): _____ MIN. FLIGHT ALTITUDE (AGL.) _____
<input type="checkbox"/> Weather factors; wind, thunderstorms, etc.	SUNRISE: _____ SUNSET: _____	<input type="checkbox"/> Transport of hazardous materials
	<input type="checkbox"/> Limited flight following communications	<input type="checkbox"/> Other _____

II. DISPATCHER/AVIATION MANAGEMENT CHECKLIST

<input type="checkbox"/> Pilot and aircraft carding checked with source list and vendor; carding meets requirements;	<input type="checkbox"/> Means of flight following and resource tracking requirements have been identified
<input type="checkbox"/> <u>OR</u> , Necessary approvals have been obtained for use of non-carded cooperator, military, or other-government agency aircraft and pilots	<input type="checkbox"/> Flight following has been arranged with another unit if flight crosses jurisdictional boundaries and communications cannot be maintained
<input type="checkbox"/> Check with vendor that an aircraft with sufficient capability to perform mission safely has been scheduled	<input type="checkbox"/> Flight hazard maps have been supplied to Chief-of-Party for non-fire low-level missions
<input type="checkbox"/> Qualified Aircraft Chief-of-Party has been assigned to the flight (noted on reverse)	<input type="checkbox"/> Procedures for deconfliction of Military Training Routes and Special-Use Airspace have been taken
<input type="checkbox"/> All DOI passengers have received required aircraft safety training;	<input type="checkbox"/> Flight manager is aware of PPE requirements
<input type="checkbox"/> Pilot will present standard safety briefing prior to departure;	<input type="checkbox"/> Cost analysis has been completed and is included in the Special Use Aviation Safety Plan
<input type="checkbox"/> Aircraft Flight Manager will be furnished with a Flight Manager/Pilot checklist and is aware of its use	<input type="checkbox"/> Other/Remarks

III. APPROVALS

Note: Reference Handbook 9420 for approval(s) required.

A. MISSION FLIGHT: HAZARD ANALYSIS PERFORMED BY:

Flight Manager Signature

B. MISSION FLIGHT: HAZARD ANALYSIS REVIEWED BY:

Dispatcher Or Aviation Manager Signature Required

C. IF NON-FIRE, ONE-TIME (NON-RECURRING), SPECIAL-USE MISSION, SIGNATURE OF LINE MANAGER IS REQUIRED**:

DATE: _____

D. THIS FLIGHT IS APPROVED BY (Authorized Signature):

DATE: _____

**
For recurring Special-Use Missions, signature is required on Special-Use Air Safety Plan, and not required here.

